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ASF771

D95

# DxMONITOR

## Animal Health Report

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Winter 1995

The DxMONITOR reports trends of confirmed disease diagnoses and animal health data collected from veterinary diagnostic laboratories and the USDA:APHIS.

The DxMONITOR Animal Health Report is distributed quarterly as part of the Veterinary Diagnostic Laboratory Reporting System (VDLRS). The VDLRS is a cooperative effort of the American Association of Veterinary Laboratory Diagnosticians (AAVLD), the United States Animal Health Association (USAHA), and the United States Department of Agriculture, Animal and Plant Health Inspection Service (USDA:APHIS).

*Caution should be taken when extrapolating information reported in the DxMONITOR due to the inherent biases of submitted specimens. Trends should be interpreted with care. An increase in the number of positive tests for a given diagnosis/agent may be the result of a true increase in prevalence, or it may only reflect a new State testing requirement, a heightened awareness of the condition, or an increase in the number of laboratories reporting data.*

Test results are presented as the number positive over the total number tested per State on U.S. maps for the current and previous quarter and as the ratio of the current quarter's positive compared to the average positive for the previous four quarters, by region, plotted on a log base 2 scale. Laboratory reported diseases in Section I are reported as tests. Diseases in Section II are reported as accessions. Increases may be a reflection of the addition of new laboratories and/or laboratories reporting additional diseases not previously reported.

**In this issue:** The disease reporting period for new data was July 1 through September 30, 1995. Data have been reported by 28 diagnostic laboratories in the States indicated on the facing page (two on hiatus), the National Veterinary Services Laboratories (NVSL), and the APHIS:Veterinary Services program staffs.

## DxMONITOR Animal Health Report

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**Articles may be reprinted with  
acknowledgment of source.**

## REGIONS OF THE VDLRS

Abbreviations for regions used  
in this issue are:

**AK** = Alaska  
**CL** = Central  
**FL** = Florida  
**HI** = Hawaii  
**MDE** = Mideast  
**MTN** = Mountain  
**NOC** = North-Central  
**NOE** = Northeast  
**PC** = Pacific  
**PR** = Puerto Rico & U.S.  
    Virgin Islands  
**SOC** = South-Central  
**SE** = Southeast  
**SW** = Southwest  
**UNK** = Unknown



## Contributing Laboratories

The following laboratories have contributed data reported in the DxMONITOR Animal Health Report. Thanks to all of the individuals at these laboratories who have worked to make this report possible.

- Arkansas Livestock and Poultry Commission Diagnostic Laboratory (Little Rock, AR)
- California Veterinary Diagnostic Laboratory System (Davis, CA)
- Colorado Veterinary Diagnostic Laboratories, Colorado State University, (Fort Collins, CO)
- Bureau of Diagnostic Laboratories, Florida Department of Agriculture (Kissimmee, FL)
- Veterinary Diagnostic Laboratory, University of Georgia (Athens, GA)
- Veterinary Diagnostic and Investigational Laboratory, University of Georgia (Tifton, GA)
- National Veterinary Services Laboratories (Ames, IA)
- Veterinary Diagnostic Laboratory, Iowa State University (Ames, IA)
- Animal Disease Diagnostic Laboratory, Purdue University (West Lafayette, IN)
- Breathitt Veterinary Center, Murray State University (Hopkinsville, KY)
- Livestock Disease Diagnostic Center, University of Kentucky (Lexington, KY)
- Minnesota Veterinary Diagnostic Laboratory, University of Minnesota (St. Paul, MN)
- Veterinary Medical Diagnostic Laboratory, University of Missouri-Columbia (Columbia, MO)
- Veterinary Diagnostic Center, University of Nebraska-Lincoln (Lincoln, NE)
- Veterinary Diagnostic Services, New Mexico Department of Agriculture (Albuquerque, NM)

- New York State Veterinary Diagnostic Laboratory, Cornell University (Ithaca, NY)
- North Dakota Veterinary Diagnostic Laboratory, North Dakota State University (Fargo, ND)
- Reynoldsburg Laboratory, Ohio Department of Agriculture (Reynoldsburg, OH)
- Oklahoma Animal Disease Diagnostic Laboratory, Oklahoma State University (Stillwater, OK)
- Veterinary Diagnostic Laboratory, Oregon State University (Corvallis, OR)
- Puerto Rico Animal Diagnostic Laboratory (Dorado, PR)
- Clemson Diagnostic Laboratory, Clemson University (Columbia, SC)
- Animal Disease Research and Diagnostic Laboratory, South Dakota State University (Brookings, SD)
- C.E. Kord Animal Disease Diagnostic Laboratory, Tennessee Department of Agriculture (Nashville, TN)
- Pan American Veterinary Laboratories, (Austin, TX)
- Texas Veterinary Medical Diagnostic Laboratory, Texas A&M University (College Station, TX)
- Bureau of Laboratory Services, Virginia Department of Agriculture and Consumer Services (Richmond, VA)
- Central Animal Health Laboratory, Wisconsin Dept. of Agriculture, Trade and Consumer Protection (Madison, WI).
- Wyoming State Veterinary Laboratory (Laramie, WY)



# LabNEWS

This section presents short descriptions of current investigations, outbreaks, news items, or events or articles of potential interest to diagnostic laboratories. The purpose is to provide a forum for timely exchanges of information about veterinary diagnostic laboratory activities. Submissions from nonparticipating laboratories are welcome.

## Proposed Changes in the Veterinary Diagnostic Laboratory Reporting System (VDLRS) and the DxMONITOR Animal Health Report

Several changes were discussed for the VDLRS and DxMONITOR at the October convention of the American Association of Veterinary Laboratory Diagnosticians (AAVLD) and the United States Animal Health Association (USAHA). The committees involved recognized the need for a national animal health reporting system that would be more comprehensive than, but would incorporate, currently existing systems.

The VDLRS will be integrated into a more comprehensive national animal health reporting system that will collect data from State veterinary offices as well as veterinary diagnostic laboratories and the United States Department of Agriculture:Animal and Plant Health Inspection Service: Veterinary Services (USDA:APHIS:VS) staffs. Information from foreign animal disease investigations will eventually be included.

The list of agents/conditions/diseases to be included will be expanded and reporting formats in the DxMONITOR changed. Some agents/conditions/ diseases will be reported with a great level of detail including such parameters as the number of tests run, accessions, premises, or herds tested and positive results. Others will be reported with a low level of detail on the detection/non-detection of the agent/condition/disease in a State. Veterinary diagnostic laboratories in the United States will be surveyed to help determine which agents/conditions/diseases should be added or dropped.

Informal articles on conditions deemed of interest by laboratory directors or diagnosticians will still be accepted for the LabNEWS section. A new section will be added that will report requested contributions on particular, broadly defined topics relating to food animals, such as enteric diseases in cattle and abortions in swine. This section will take a more extensive look at the condition in question and the topic will change with each report.

Contact: Dr. Marty Smith, DxMONITOR Coordinator, USDA:APHIS:VS, Centers for Epidemiology and Animal Health, Fort Collins, CO, (970) 490-7863.

## Update on the Vesicular Stomatitis Virus-New Jersey (VSV-NJ) Outbreak in the Western U.S.

This update is excerpted from the twentieth through the twenty-fifth weekly vesicular stomatitis outbreak updates distributed by the United States Department of Agriculture:Animal and Plant Health Inspection Service: Veterinary Services (USDA:APHIS:VS). The index case in the 1995 VSV-NJ outbreak (a horse in New Mexico) was laboratory confirmed on May 6, 1995. Positive premises were later identified in Arizona, Colorado, Utah, and Wyoming.

As of December 1, 1995, all VSV-affected premises in New Mexico had been released from quarantine. New Mexico had 186 positive premises quarantined during the 1995 VSV-NJ outbreak. As of December 4, 1995, all VSV-affected premises in Wyoming had been released from quarantine. Wyoming had eight positive premises quarantined. As of December 13, 1995, all VSV-affected premises in Utah had been released from quarantine. Utah had six positive premises quarantined.

Figure 1 shows the current county location of premises with at least one confirmed case of VSV-NJ as of December 20, 1995. As of December 20, 1995, Colorado had three positive premises.

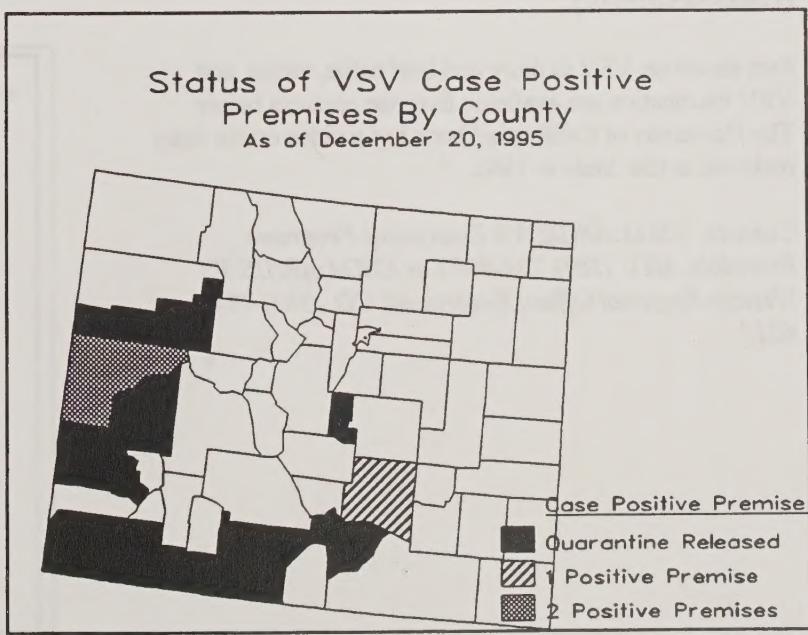


Figure 1

The VSV outbreak in the San Luis valley of Colorado is subsiding. Spread to adjacent premises in the San Luis valley has not been observed. Preliminary reports on three of the 16 cows that were infected with VSV and subsequently died indicate that these were older animals with nephrosis and uremia at the time of death. This suggests the possibility of pre-existing, diminished renal function exacerbated by VSV-induced debilitation. The Colorado State University diagnostic laboratory has not found evidence that VSV was the primary cause of death in these animals. Preliminary results from seroprevalence studies being conducted in Colorado estimate 10-15 percent clinical prevalence and 75-80 percent seroprevalence. These studies are being conducted on both cattle and horses.

It seems to have become a widely held belief that once there is a killing frost, the threat of VSV is over. This belief comes from the fact that transmission via insect vectors is greatly decreased when cold weather eliminates many of the insects. However, VSV is also transmitted via contact with infected animals, and this mode of transmission is not decreased with a killing frost. The current outbreak is winding down, but it is still active. Livestock owners need to continue to be aware of the disease and take appropriate precautions to prevent spread of infection.

Some countries are requiring negative VSV tests for animals to be imported. For further information on trade restrictions, please contact your federal veterinarian or the National Center for Import and Export in Riverdale, MD, (301) 734-8590.

Several U.S. States have movement restrictions for livestock and wild or exotic animals originating from affected States. State requirements are available via the Regulation Retrieval System or the Voice Response System (1-800-545-USDA).

Fact sheets on VSV in dairy and beef cattle, swine, and VSV vaccination are available from the contacts below. The University of California-Davis has a video on the dairy outbreak in that State in 1982.

Contact: USDA:APHIS:VS Emergency Programs, Riverdale, MD, (301) 734-8073 or USDA:APHIS:VS Western Regional Office, Englewood, CO, (303) 784-6215.

## National Veterinary Services Laboratories' (NVSL) Quarterly *Salmonella* Report

This report is excerpted from the NVSL's quarterly *Salmonella* report. This quarterly report summarizes *Salmonella* serotype distribution and frequency data accumulated by the NVSL during the period July 1 through September 30, 1995.

The most common serotype results are included for *Salmonella* cultures from livestock species submitted to the NVSL for identification.

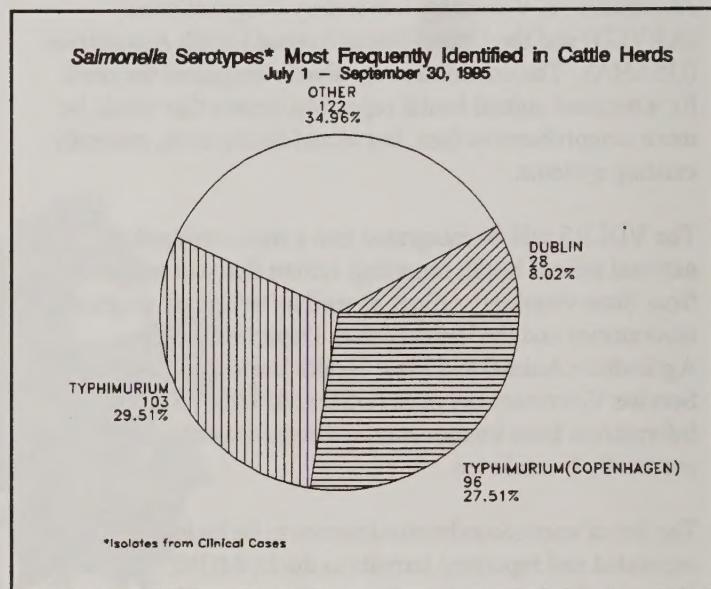


Figure 2

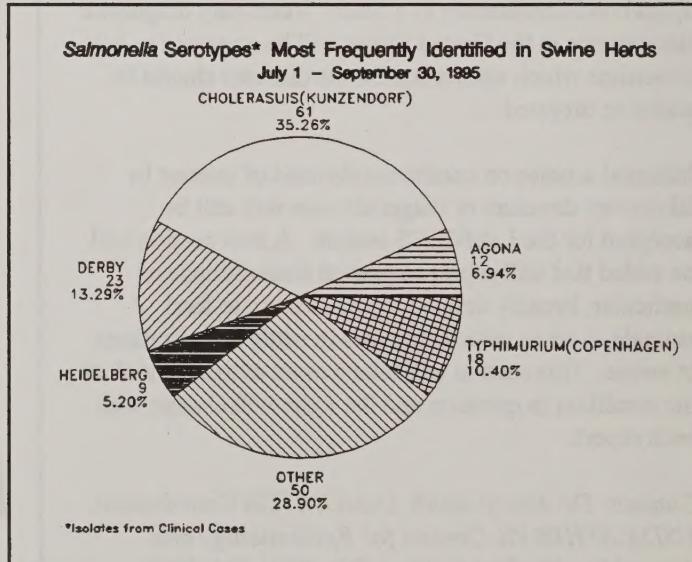


Figure 3

Figures 2 through 7 show pie charts of the most commonly identified *Salmonella* serotypes of clinical isolates in cattle, swine, and horse herds, and sheep, chicken, and turkey flocks.

*Salmonella* serotypes included in the "other" category for cattle were 13 montevideo, four muenster, and 105 unspecified. "Other" serotypes for swine and horses were all unspecified. "Other" serotypes for chickens included one schwarzengrund, one typhimurium (copenhagen), one agona, one mbandaka, and five unspecified. "Other" serotypes for turkeys included seven muenster, eight reading, four typhimurium, four anatum, two ohio, one uganda, and 16 unspecified.

Contact: Kathy Ferris, Bacterial Identification Section,  
USDA:APHIS:VS, National Veterinary Services  
Laboratories, Ames, IA, (515) 239-8565.

#### *Salmonella* Serotypes\* Most Frequently Identified in Chicken Flocks

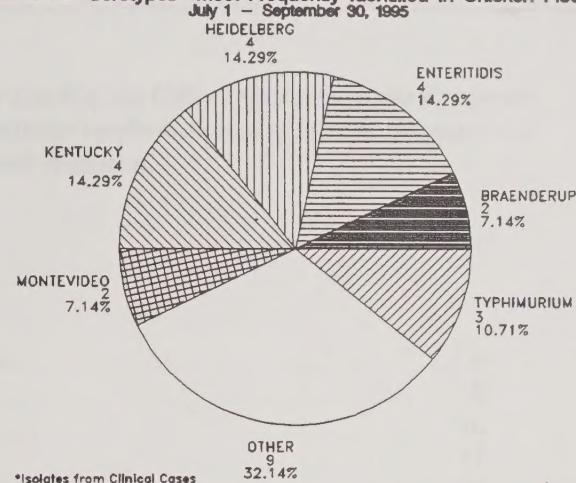


Figure 6

#### *Salmonella* Serotypes\* Most Frequently Identified in Horse Herds

July 1 – September 30, 1995

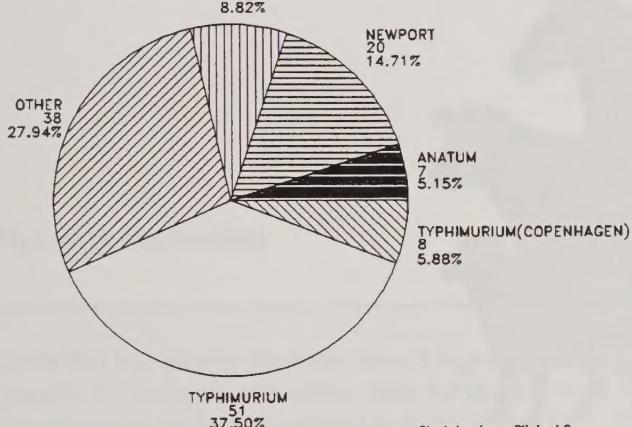


Figure 4

#### *Salmonella* Serotypes\* Most Frequently Identified in Turkey Flocks

July 1 – September 30, 1995

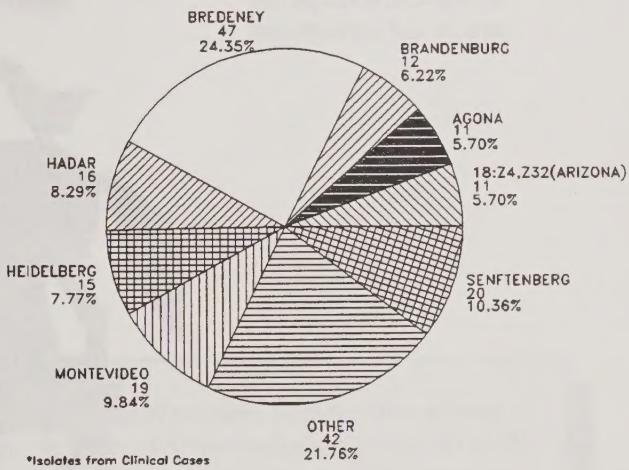


Figure 7

#### *Salmonella* Serotypes\* Most Frequently Identified in Sheep Flocks

July 1 – September 30, 1995

61:1.5(ARIZONA)  
5  
55.56%

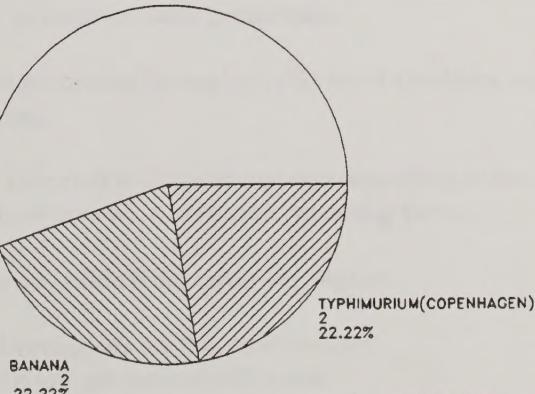


Figure 5



# I. Patterns of Selected Diseases

Section I contains information on selected diseases of interest as designated by List B of the Office International des Epizooties (OIE) and other livestock diseases. The purpose of reporting these data is to monitor confirmed cases of specific diseases on a State-by-State or regional basis so that national distributions can be mapped and evaluated.

Bovine Leukosis Virus .....	6
Paratuberculosis .....	8
Bovine Brucellosis .....	10
Bovine Tuberculosis .....	11
Bovine Spongiform Encephalopathy .....	12
Porcine Reproductive and Respiratory Syndrome Virus .....	14
Pseudorabies Virus .....	16
Equine Viral Arteritis Virus .....	17
Bovine Bluetongue Virus .....	not reported this quarter
Equine Infectious Anemia .....	not reported this quarter
Equine Encephalomyelitis .....	not reported this quarter
Swine Brucellosis .....	not reported this quarter

## Key to Figures in this Section:

- Deviation bar charts show the base 2 logarithmic transformation of the ratio of positive tests for the current quarter to the mean of positive tests for the previous four quarters. A value of '0' is equivalent to a ratio of '1', indicating no change compared to historical values. Each unit change indicates a doubling (positive change) or halving (negative change) of the present value compared to the mean of the historical values.
- Maps present data in two manners. Maps of federally regulated conditions show numbers of herds. Maps of conditions reported by participating laboratories show total number of positive tests over total number of tests run, per State, for the current and previous quarter.
- In some cases, the denominator is a minimum because some laboratories were not able to determine the total number of negative tests performed.
- Data are presented by region or State of specimen origin and quarter of the calendar year for specimen submission.
- Results reported with dates not corresponding to the current quarter are the result of different testing intervals or related to different reporting times.
- See map on inside front cover for regions.
- Test abbreviations used in this section:  
AGID = Agar gel immunodiffusion  
ELISA = Enzyme linked immunosorbent assay

CF = Complement fixation

IFA = Indirect fluorescent antibody

Bovine Leukosis Virus (BLV)

Criteria: AGID or pathology.

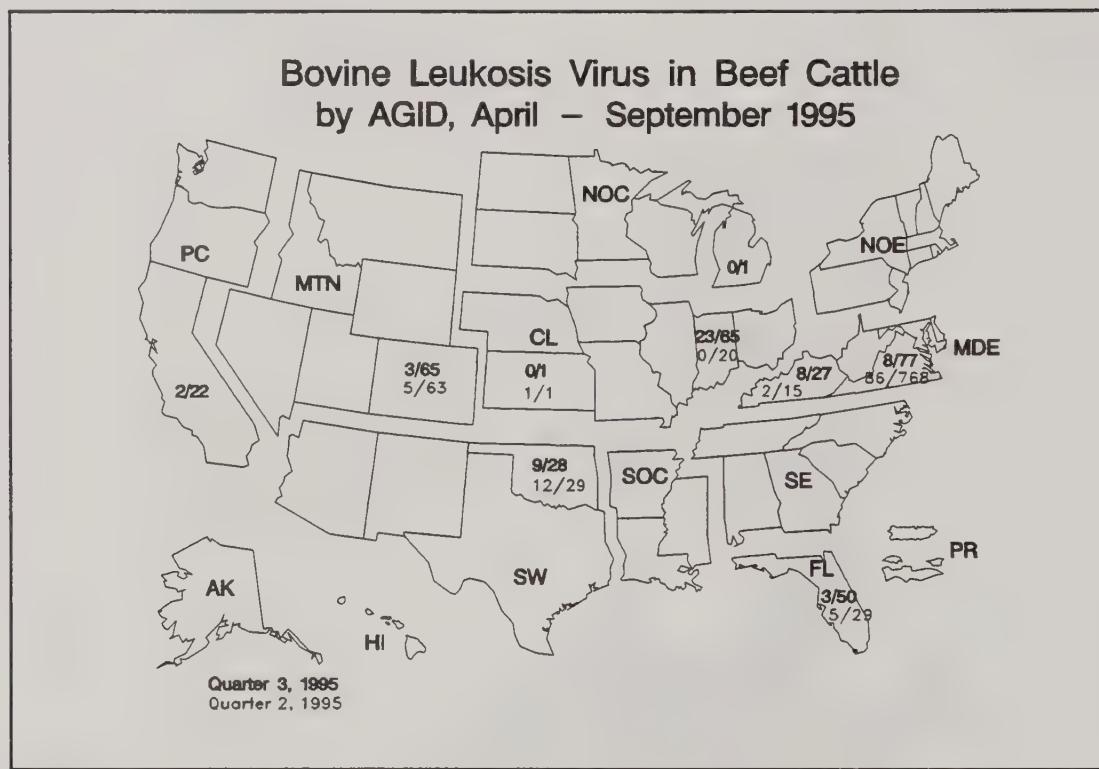


Figure 8

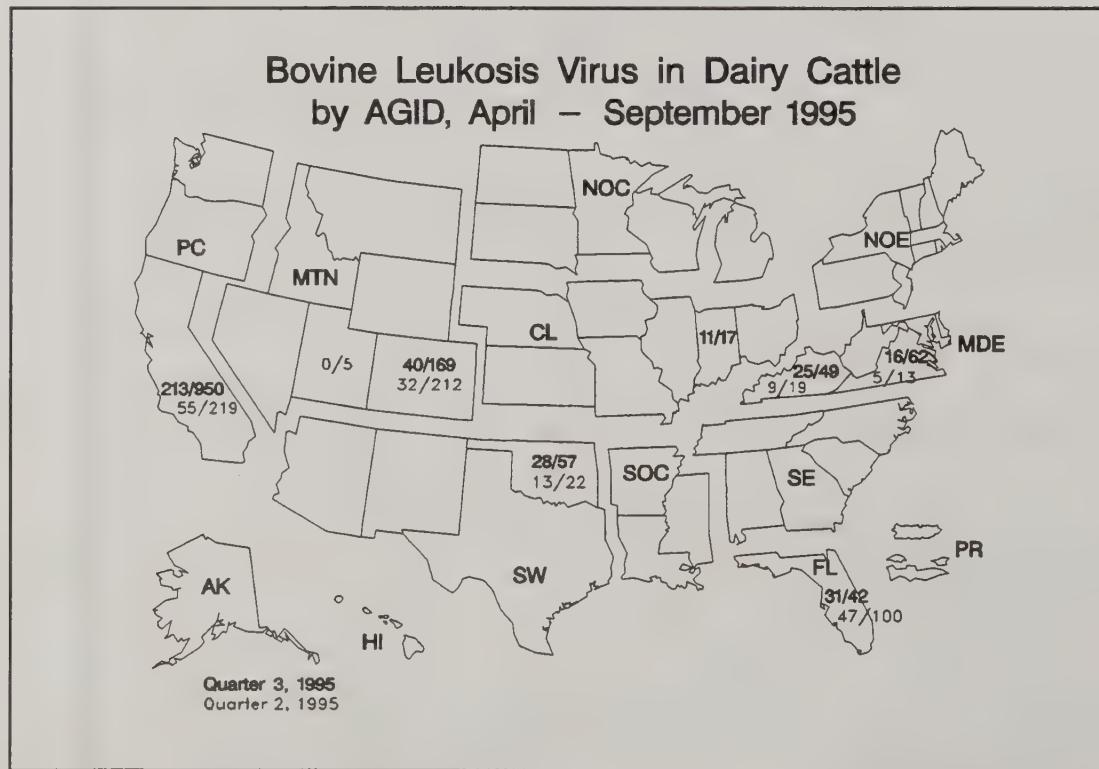


Figure 9

## Bovine Leukosis Virus in All Cattle by AGID, April – September 1995

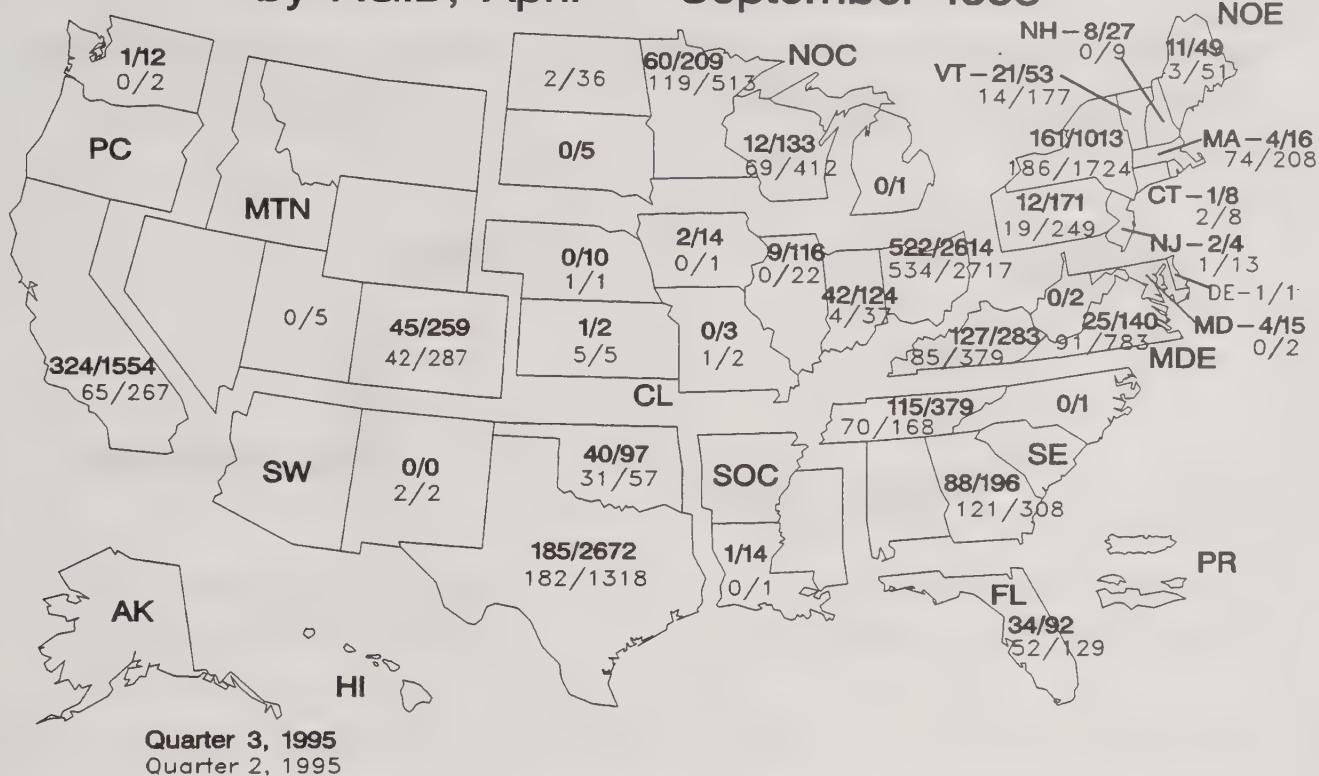


Figure 10

For the third quarter of 1995 (July through September), there were a total of 1,857/10,288 (18.1 percent) positive AGID tests reported for bovine leukosis virus (BLV), compared to 1,776/9,894 (18.0 percent) for the second quarter of 1995 and 2,567/11,888 (21.6 percent) for the third quarter of 1994. Figures 8 through 10 show the distribution of AGID test results for BLV for the second and third quarters of 1995 in beef, dairy, and all cattle by State. Figure 10 includes results where the class was unknown.

Figure 11 shows the ratio of total AGID positives for the third quarter of 1995 compared to the average total AGID positives for the previous four quarters by region.

In addition to the AGID results reported above, two States reported results for histopathology or multiple tests. Georgia reported two positives by histopathology. Missouri reported 38 positives of 75 tested by multiple tests.

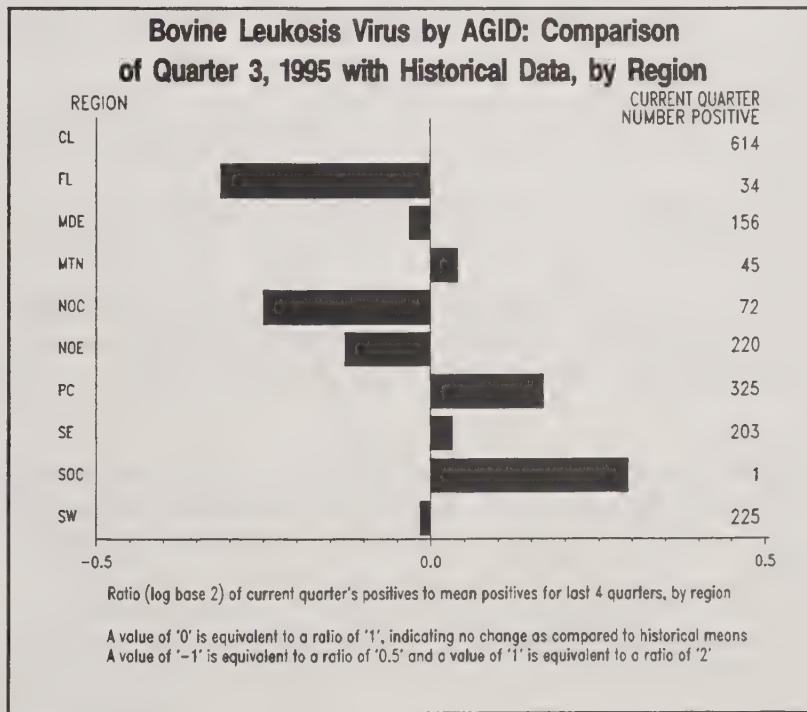
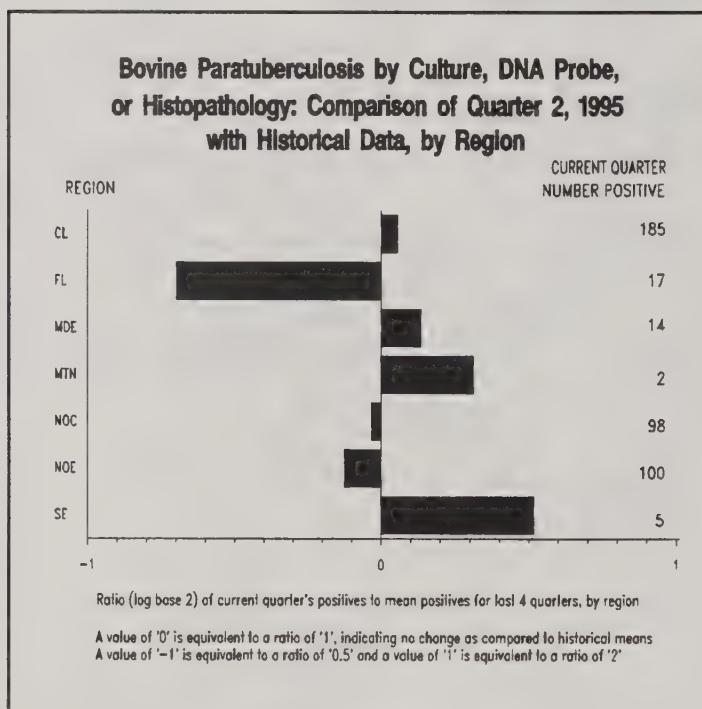


Figure 11

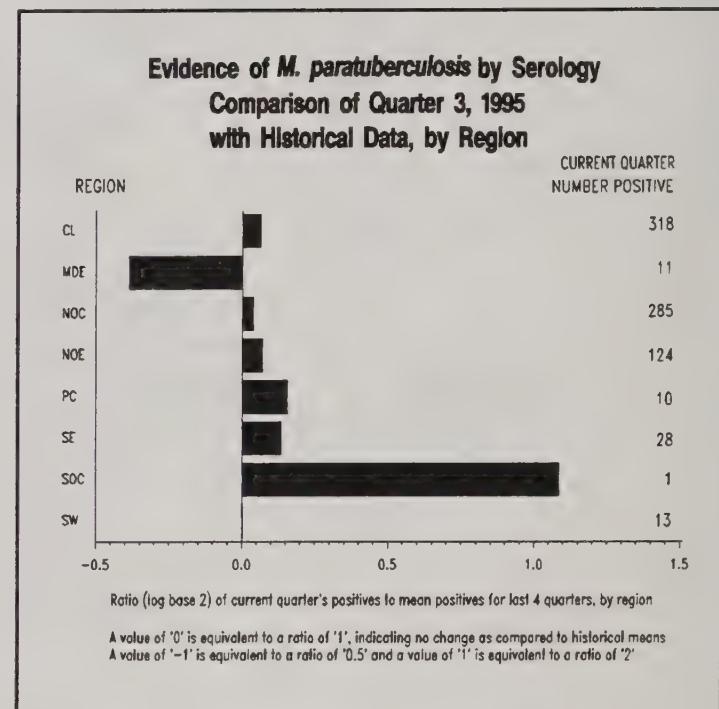
NOTE: States with no values are nonreporting States.

### Paratuberculosis

**Criteria: Culture, histopathology, DNA probe, AGID, ELISA, or CF.**



**Figure 12**



**Figure 13**

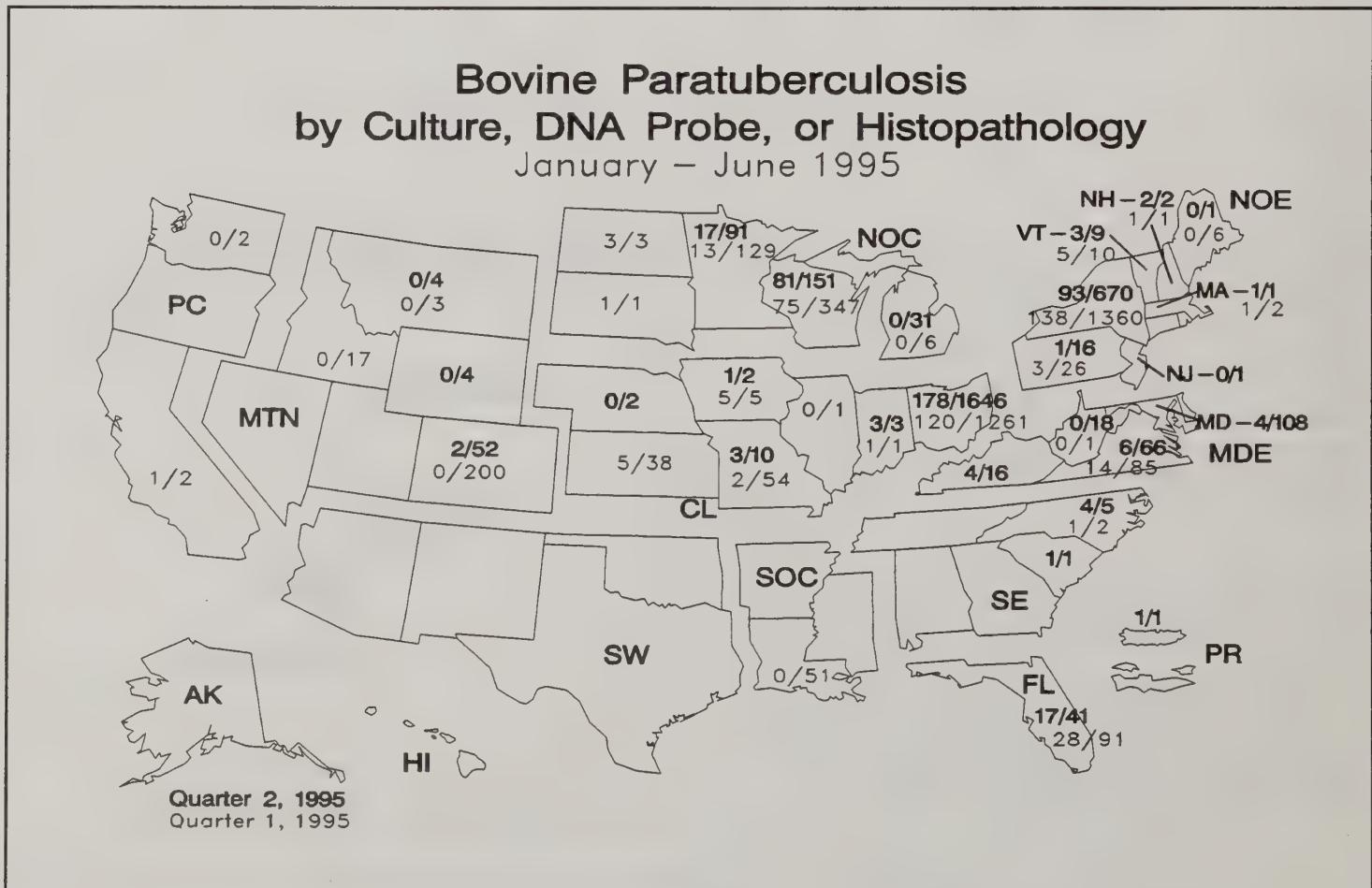


Figure 14

## Bovine *M. paratuberculosis* by Serology

April – September 1995



Figure 15

**Bovine:** Figure 12 shows the ratios of positives for the second quarter of 1995 to the average number of positives for the previous four quarters. Data represent paratuberculosis culture, DNA probe, and histopathology, by region. The Puerto Rico region (not shown) reported one positive for the current quarter compared to an average of zero for the previous four quarters. Ratios for paratuberculosis serology positives for the third quarter of 1995 compared to the previous four quarters are shown in Figure 13. The Mountain region (not shown) reported zero positive for the current quarter compared to an average of 1.25 for the previous four quarters.

Figure 14 shows culture, DNA probe, and histopathology results for bovine paratuberculosis for the first and second quarters of 1995, by State. Positives for the second quarter of 1995 were 422/2,952 (14.3 percent).

Figure 15 shows the serology results for bovine paratuberculosis for the second and third quarters of 1995, by State. Positives for the third quarter of 1995 were 790/4,401 (18.0 percent).

**Caprine:** For the second quarter of 1995, five out of 52 (9.6 percent) caprine paratuberculosis culture, DNA probe, and histopathology tests were positive. Florida (1), Massachusetts (1), and New York (3) reported the positive test results. For the third quarter of 1995, seven out of 73 (9.6 percent) caprine serology tests were positive. California (3), Massachusetts (1), Maryland (1), New York (1), and Wisconsin (1) had positive test results.

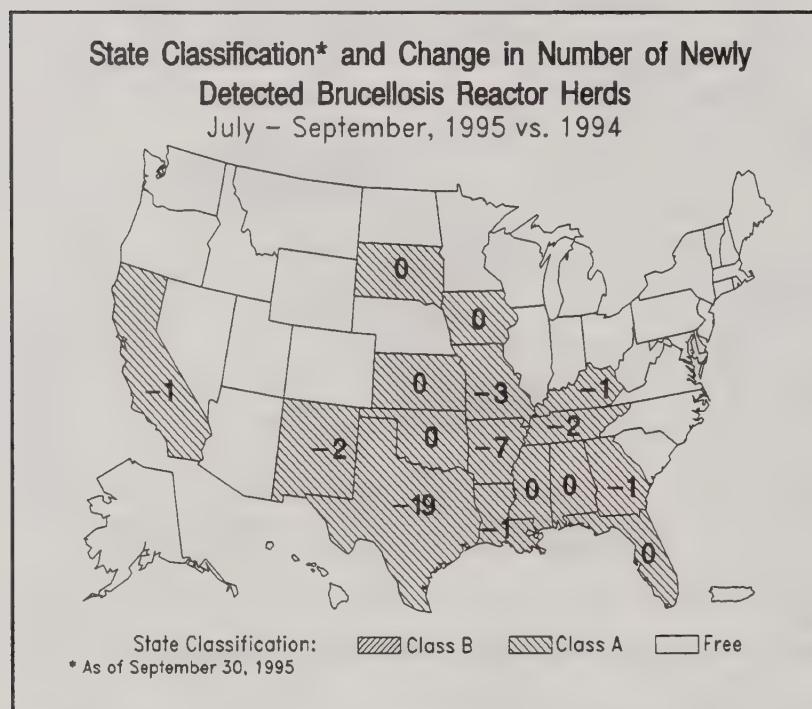
**Ovine:** For the second quarter of 1995, one out of 28 (3.6 percent) ovine paratuberculosis culture, DNA probe, and histopathology tests were positive. New York reported the positive test result. For the third quarter of 1995, nine out of 211 ovine serology tests were positive (4.3 percent). California (5), Maryland (3), and Vermont (1) had positive test results.

**Other:** Culture results for nontraditional species reported for the second quarter of 1995 were negative for one bison (Wisconsin), negative for one cervid (Minnesota), negative for one llama (Minnesota), and positive for one of 17 miscellaneous species (Ohio). DNA probe results for the third quarter of 1995 were positive for five of 36 zoo ruminants (Florida). Serology results for the third quarter of 1995 were negative for two cervidae (Minnesota and Wisconsin).

NOTE: States with no values are nonreporting States.

Bovine Brucellosis

Source: Dr. Mike Gilsdorf  
USDA:APHIS:VS  
Cattle Diseases Staff  
(301) 734-8711



**Figure 16**

**Reactor herd** = Herd with at least one case of brucellosis confirmed by serology or culture.

#### **Definition of State Classifications:**

**Class B:** More than 0.25 percent, but less than 1.5 percent of all herds infected.

**Class A:** No more than 0.25 percent of all herds infected.

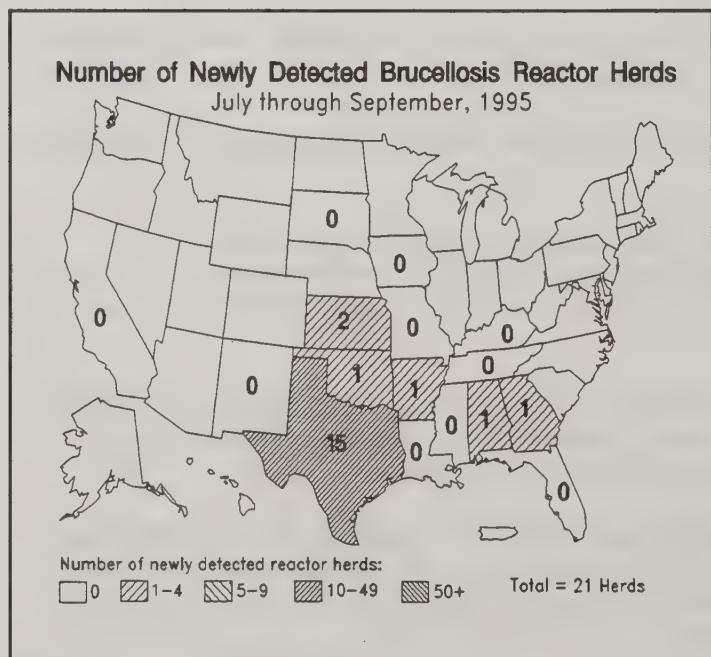
**Free:** No infected herds under quarantine during the past 12 months.

There were no Class B States for bovine brucellosis at the time of release of this report. Nebraska was declared bovine brucellosis free on May 31, 1995. No States had increased numbers of newly detected bovine brucellosis herds between July 1 and September 30, 1995.

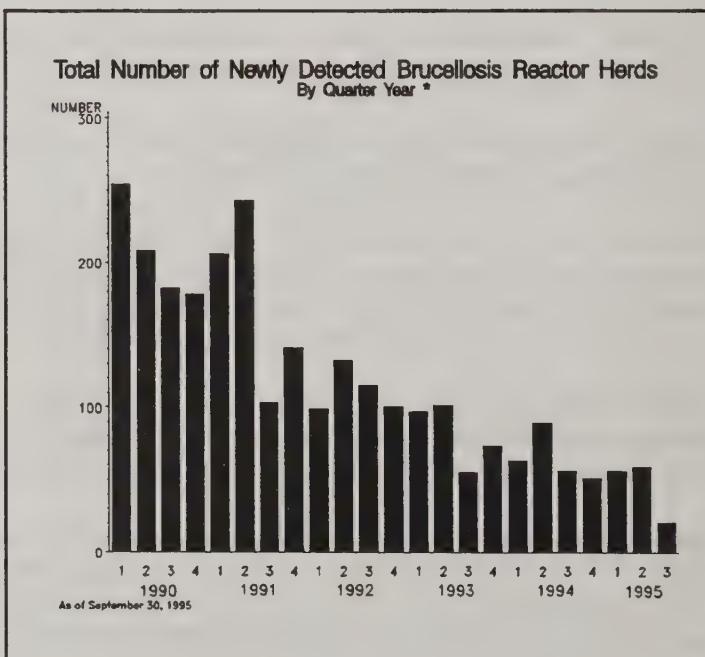
Arkansas, California, Georgia, Kentucky, Louisiana, Missouri, New Mexico, Tennessee, and Texas had decreased numbers (Figure 16).

For the entire U.S., there were 21 newly detected bovine brucellosis reactor herds from July through September 1995 (Figure 17), 38 fewer herds than were newly identified from April through June 1995.

The 21 brucellosis reactor herds detected in the third quarter of 1995 were 37 fewer than were detected during the same quarter of 1994 (Figure 18).



**Figure 17**



**Figure 18**

## Bovine Tuberculosis

Source: Dr. J.S. VanTiem  
 USDA:APHIS:VS  
 Cattle Diseases Staff  
 (301) 734-8715

**Infected** = Laboratory confirmed existence of *Mycobacterium bovis*.

**State Classifications:**

**Modified Accredited:** Testing and Slaughter Surveillance Programs in effect.

**Accredited Free:** Testing and Slaughter Surveillance Programs have identified no infected bovines for 5 or more years.

There were a total of nine cattle or bison herds identified as being infected with bovine tuberculosis during fiscal year 1995 (October 1, 1994, through September 30, 1995, Figure 19). Texas and Wisconsin each had one herd newly identified as infected during the third quarter of 1995. Wisconsin became accredited free (suspended) on December 8, 1995.

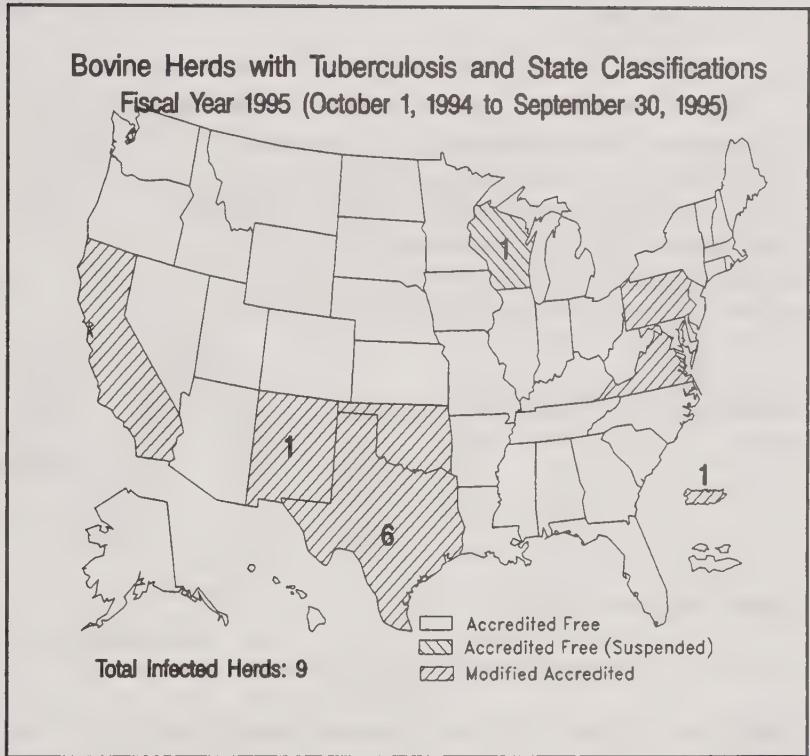


Figure 19

There were a total of 10 cervidae herds identified as infected with bovine tuberculosis during fiscal year 1995 (October 1, 1994, through September 30, 1995, Figure 20). Of the 10 herds, six were elk, three were deer, and one was a mixed or exhibition herd.

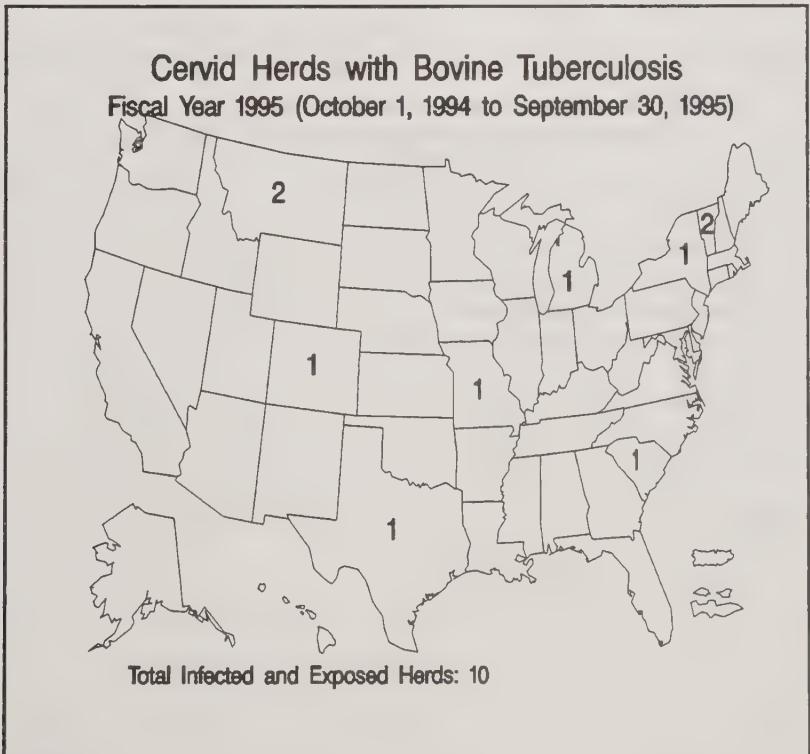


Figure 20

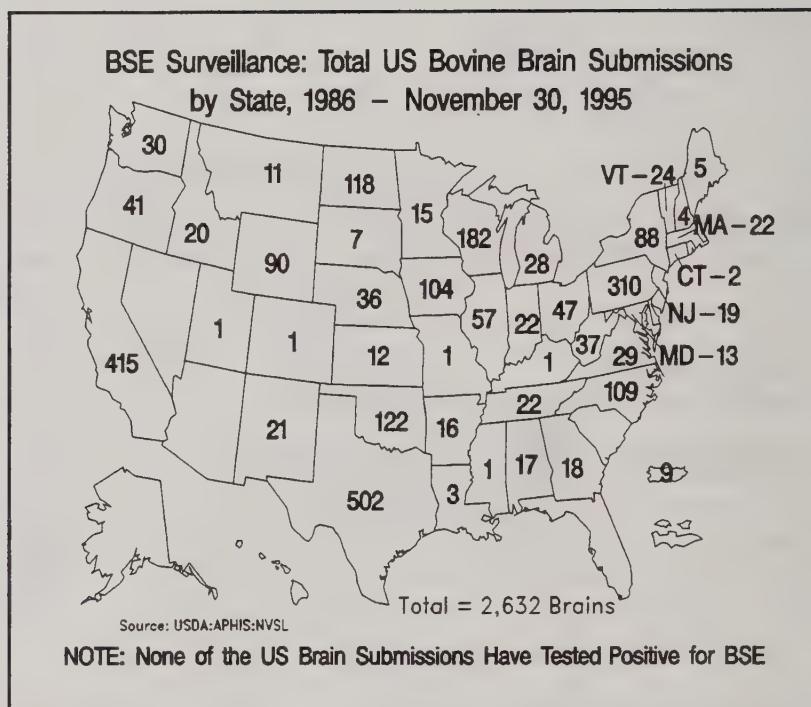
#### Bovine Spongiform Encephalopathy (BSE)

## **United States Surveillance:**

Source: Dr. Art Davis  
USDA:APHIS:VS  
National Veterinary Services  
Laboratories, Diagnostic Pathobiology  
Laboratory  
(515) 239-8521

Surveillance for bovine spongiform encephalopathy (BSE) in the United States continues with an additional 221 brains received by the National Veterinary Services Laboratories (NVSL) for examination from October 1 through November 30, 1995 (Figure 21). This brings the total number of brains reported examined to 2,632, as of November 30, 1995.

**No evidence of BSE has been found in any U.S. cattle.**



**Figure 21**

## **United Kingdom Update:**

Source: Dr. J. Wilesmith, Great Britain

Great Britain reported 3,151 newly confirmed cases of BSE with 272 more herds affected between September 1 and December 1, 1995 (Table 1). Review of the epidemic curve (Figure 22) indicates that the epidemic continues to decline.

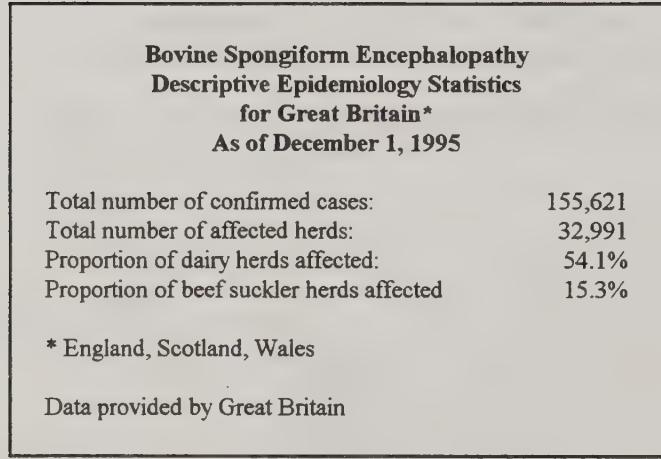
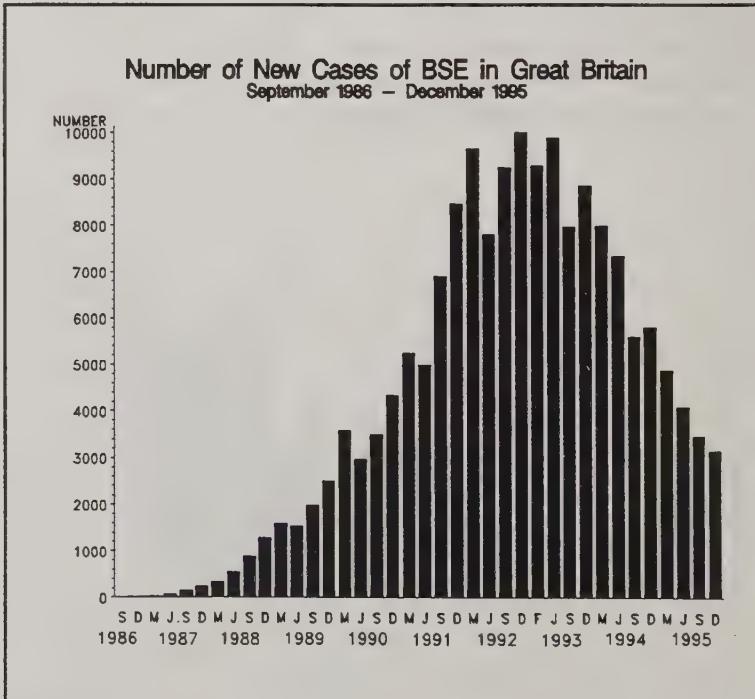


Table 1



**Figure 22**

**Other BSE Affected Countries:**

Sources: Dr. T. Chillaud, Office International des Epizooties  
 Dr. G. O. Denny, Northern Ireland

Portugal reported three additional cases of BSE in native cattle between August 1 and October 30, 1995. Switzerland reported 10 additional cases in native cattle between August 25 and November 17, 1995. Northern Ireland reported an additional 44 cases in native cattle between September 1 and December 4, 1995 (Table 2). No additional reports of cases of BSE imported from the United Kingdom or other countries with endemic BSE were recorded since the last reporting period.

**BSE Cases<sup>1</sup> Worldwide Other Than Great Britain as of December 1, 1995**

Country <sup>2</sup>	1987 +before	1988	1989	1990	1991	1992	1993	1994	1995	Total
Guernsey	4	34	52	83	75	92	115	69	—	524
Northern Ireland	0	3	30	100	170	333	487	363	156 <sup>3</sup>	1642
Jersey	0	1	4	8	14	23	37	22	—	109
Isle of Man	0	6	6	22	67	109	110	55	—	375
Republic of Ireland	0	0	15	14	17	18	16	19	3 <sup>3</sup>	102
Switzerland	0	0	0	2	8	15	29	64	62 <sup>3</sup>	180
Portugal	0	0	0	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>4</sup>	3 <sup>4</sup>	12	13 <sup>3</sup>	31
France	0	0	0	0	5	0	1	4	2	12

## Countries with imported cases only:

Germany: 4 cases (02/92, 02/94, 04/94, 05/94)

Falkland Islands: 1 case (1989)

Canada: 1 case (11/93)

Italy: 2 cases (10/94)

Denmark: 1 case (07/92)

Oman: 2 cases (1989)

1. Cases in native cattle and cattle imported from the U.K. or another country with endemic BSE.
2. In order of first reported case/diagnosis.
3. Data for Northern Ireland as of December 4, 1995; data for Switzerland as of November 17, 1995; data for Portugal as of October 30, 1995; data for the Republic of Ireland as of March 31, 1995.
4. Imported cases.

Data provided by Office International des Epizooties and Northern Ireland.

Table 2

## I. Patterns of Selected Diseases

### □ Porcine Reproductive and Respiratory Syndrome (PRRS) Virus

Criteria: Virus isolation or antibody detection by indirect fluorescent antibody.

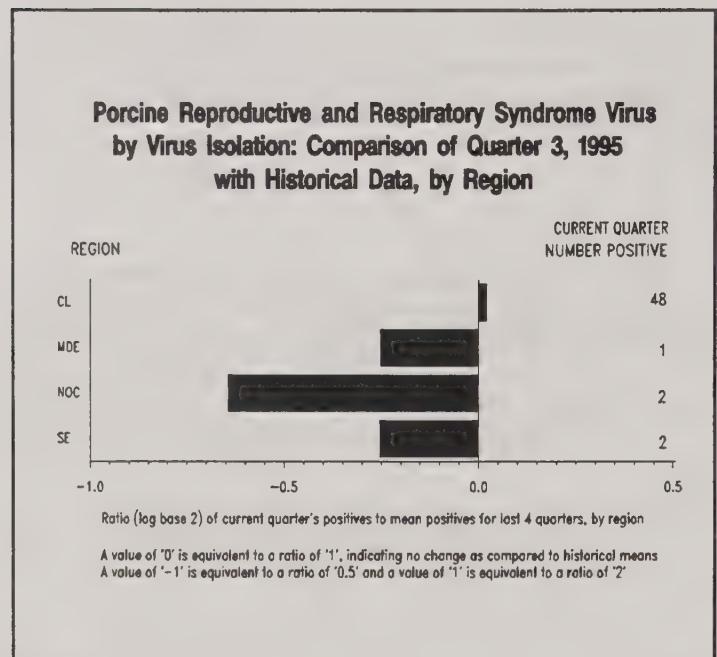


Figure 23

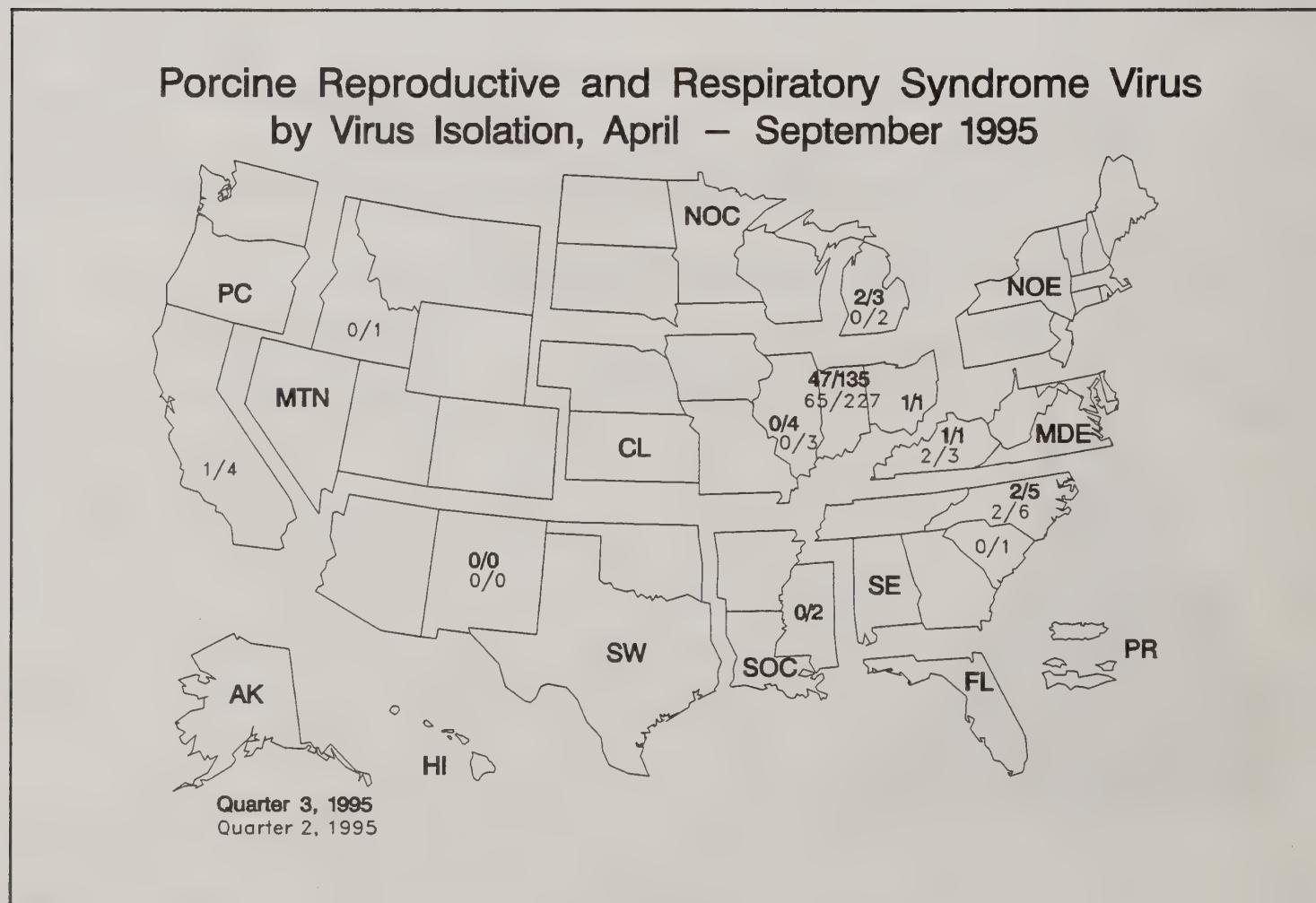
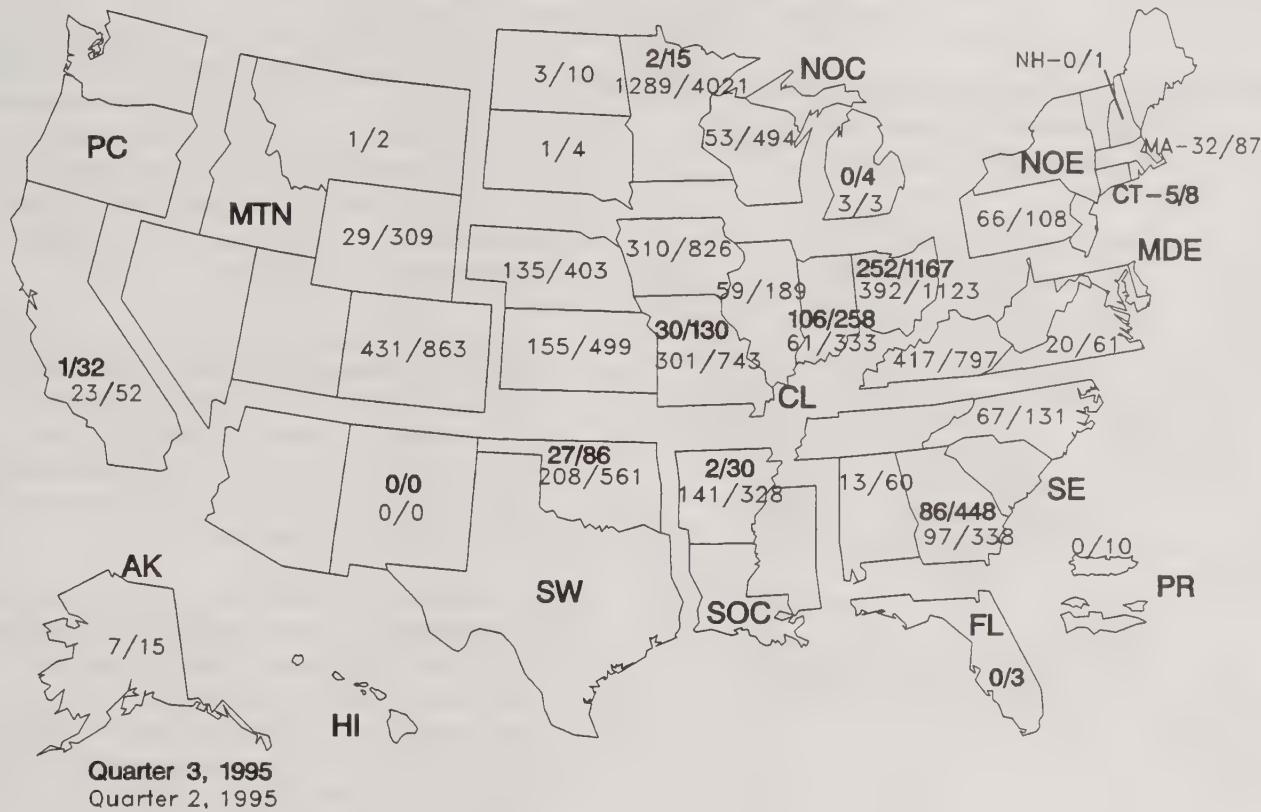


Figure 24

## **Porcine Reproductive and Respiratory Syndrome Virus by Serology, April – September 1995**



**Figure 25**

Figure 23 shows the ratio of positive virus isolation tests for porcine reproductive and respiratory syndrome (PRRS) for quarter three 1995 (July 1 through September 30) compared to the average number positive for the previous four quarters. The South Central region (not shown) reported zero positive for the current quarter compared to an average of one for the previous four quarters. The Southwestern region (not shown) also reported zero positive compared to an average of one.

The ratio comparison of serology test results for PRRS for the third quarter of 1995 is not shown because the laboratory at Minnesota, which does a large volume of PRRS serology testing, was unable to report their results this quarter.

Virus isolation for PRRS virus resulted in 53 positives out of 151 tests run (35.1 percent) for the third quarter of 1995. Figure 24 shows the reported results of virus isolation for the second and third quarters of 1995, by State.

Indirect fluorescent antibody (IFA) serology testing for PRRS resulted in 511 positives out of 2,181 tests run (23.4 percent) for the third quarter of 1995. Figure 25 shows the reported results of IFA serology for the second and third quarters of 1995, by State.

NOTE: States with no values are nonreporting States.

## Pseudorabies Virus (PRV)

Source: Dr. Joe Annelli  
 USDA:APHIS:VS  
 Swine Health Staff  
 (301) 734-7767

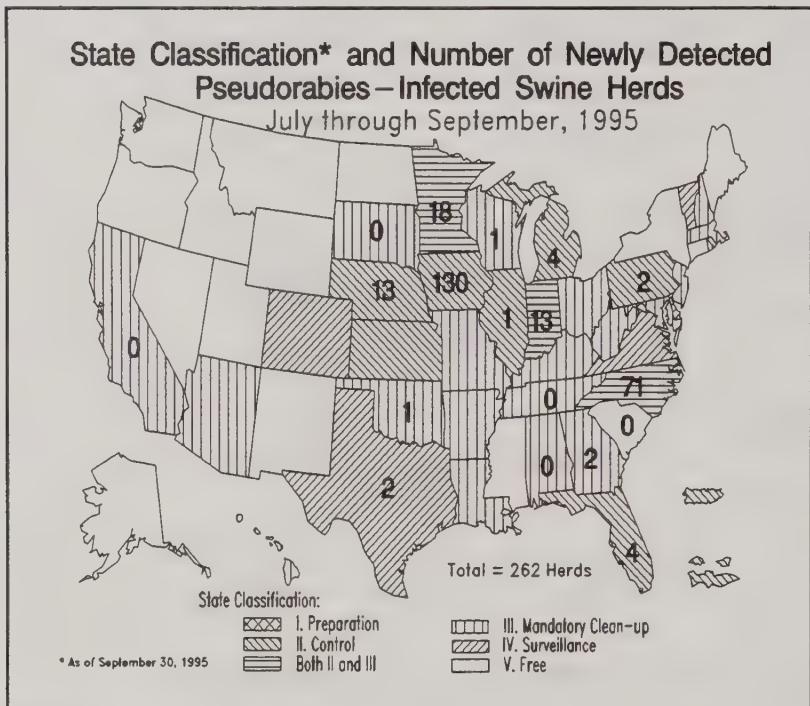


Figure 26

A total of 262 swine herds were newly identified as being infected with pseudorabies virus (PRV) during the third quarter of 1995 (Figure 26). The number of newly identified herds in Iowa was 130. Nevada (Class V), South Carolina (Class V), and Texas (Class IV) all advanced in State classification between July and September 1995. There were no Class I States at the time of release of this report.

Iowa had 57.6 percent (2,353 out of 4,084) of all known PRV infected herds in the Unites States in the third quarter of 1995. The total number of known infected herds in the U.S. continues to decline (Figure 27). The herd prevalence of PRV was 1.98 for the third quarter of 1995. This is the first time the herd prevalence has dropped below 2 percent since 1992.

The percentage of known PRV infected swine herds participating in clean-up programs in the third quarter of 1995 was slightly lower than the percentage for the second quarter of 1995 (Figure 28). The overall participation rate for the third quarter was 96.2 percent with 3,931 of the 4,084 known infected herds on clean-up plans. The overall participation rate for the second quarter was 97.2 percent.

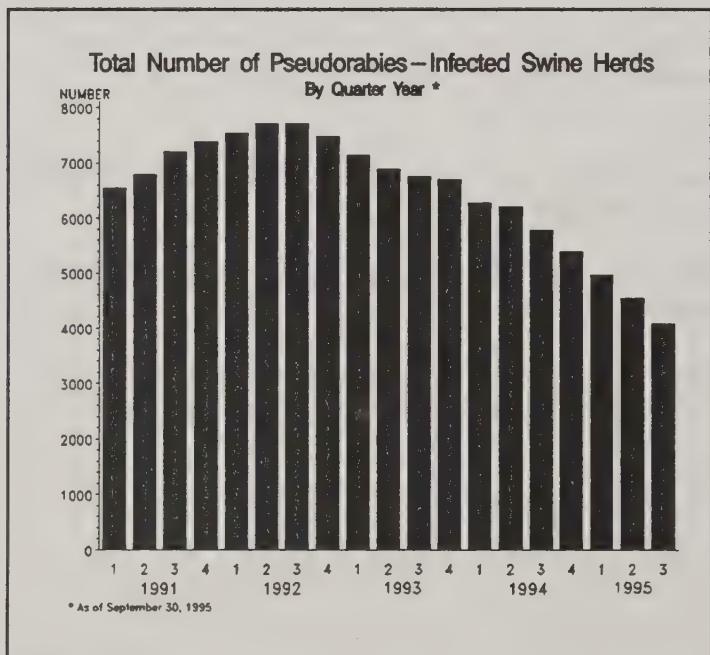


Figure 27

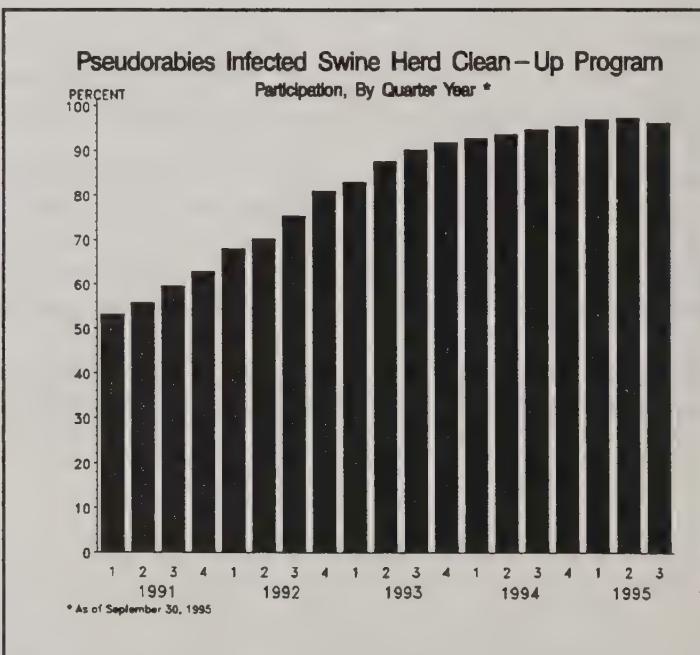


Figure 28

## Equine Viral Arteritis (EVA) Virus

**Criteria:** Virus neutralization ( $>1:4$  titer) and no history of vaccination, or virus isolation from tissue or semen.

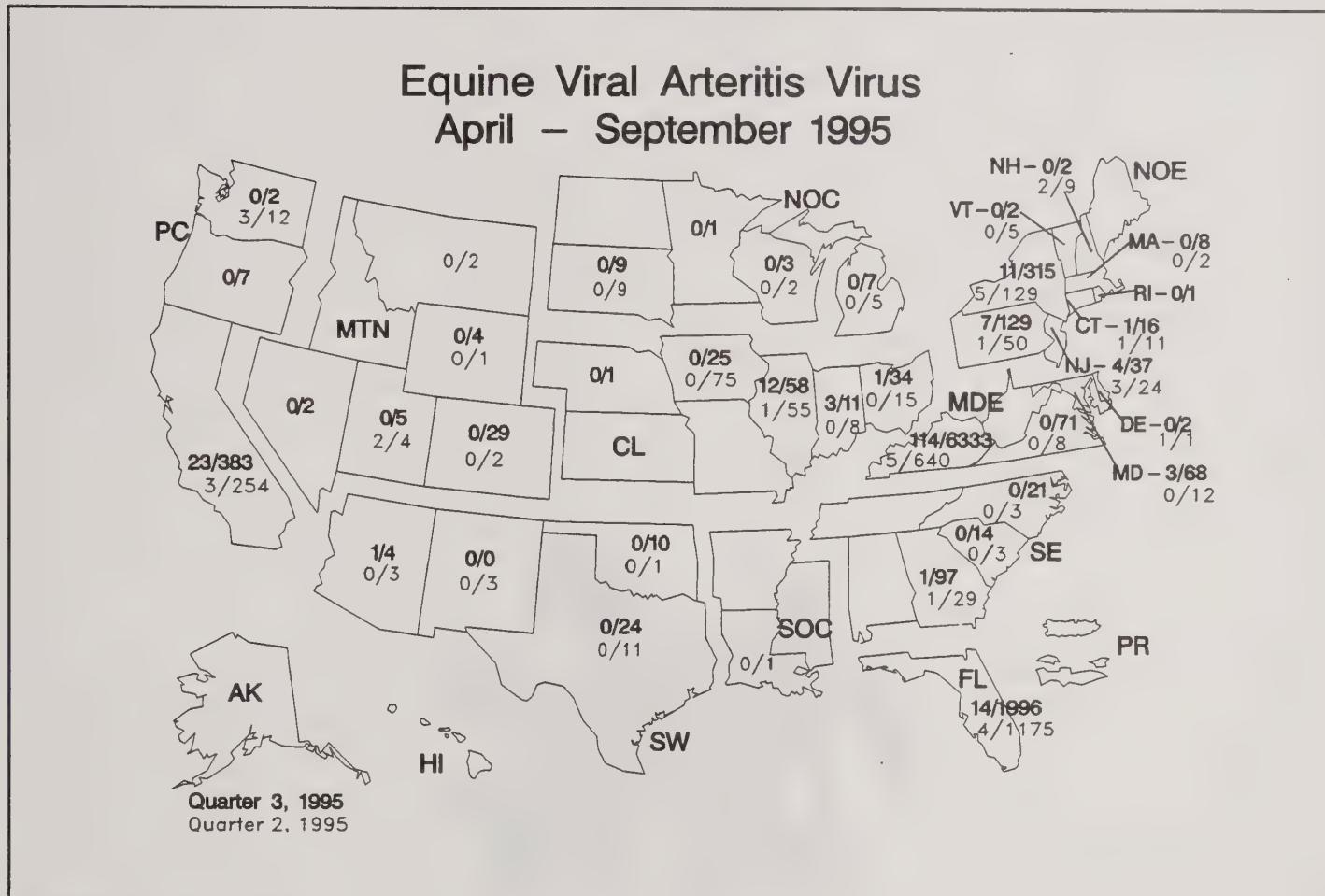
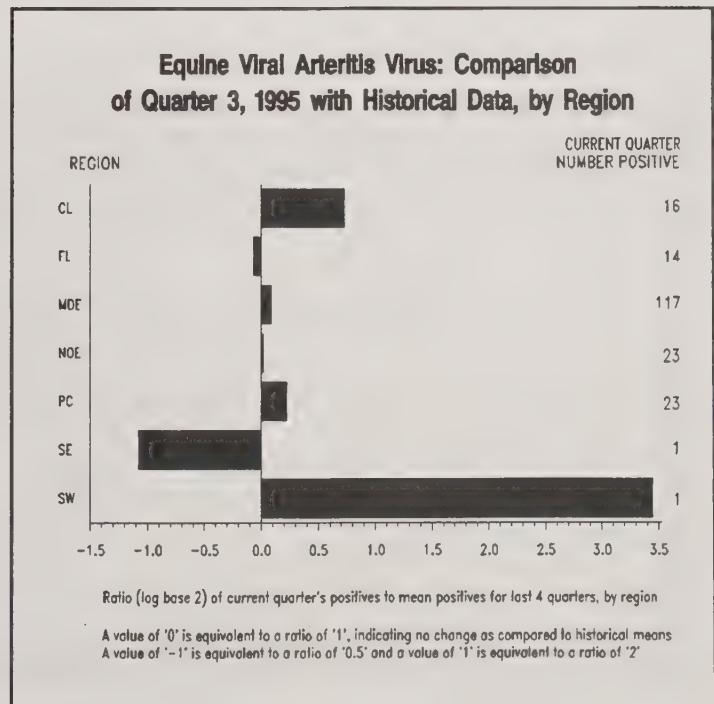


Figure 29

For all regions combined, 195 positives (2.0 percent of the 9,731 tests) for equine viral arteritis (EVA) virus were reported for the third quarter of 1995 (Figure 29).

Figure 30 shows the ratio of the number positive for the third quarter of 1995 compared to the previous four quarters. The Mountain region (not shown) reported zero positive for the current quarter compared to an average of 0.5 for the previous four quarters. The North Central region (not shown) reported zero positive compared to an average of 0.75.



NOTE: States with no values are nonreporting States.

Figure 30

## I. Patterns of Selected Diseases



## **II. Selected Etiologic Agents Associated with Bovine Abortion**

*Section II characterizes selected agents associated with bovine abortions (aborted fetuses or congenitally infected calves) from accessions reported to veterinary diagnostic laboratories.*

*Neospora spp. .... 20*

### **Key to Figures in this Section:**

- Deviation bar charts show the base 2 logarithmic transformation of the ratio of positive accessions for the current quarter to the mean of positive accessions for the previous four quarters. A value of '0' is equivalent to a ratio of '1', indicating no change compared to historical values. Each incremental unit change indicates a doubling (positive change) or halving (negative change) of the present value compared to the mean of the historical values.
- Maps of conditions reported by participating laboratories show total number of positive accessions over total number of accessions run, per State, for the current and previous quarter.
- In some cases, the denominator is a minimum because some laboratories were not able to determine the total number of negative accessions.
- Data are presented by region or State of specimen origin and quarter of the calendar year for specimen submission.
- See map on inside front cover for regions.

***Neospora* spp.**

**Criteria:** Histopathology and detection of antigen by immunohistochemistry, or detection of antibody in aborted fetus by indirect FA.

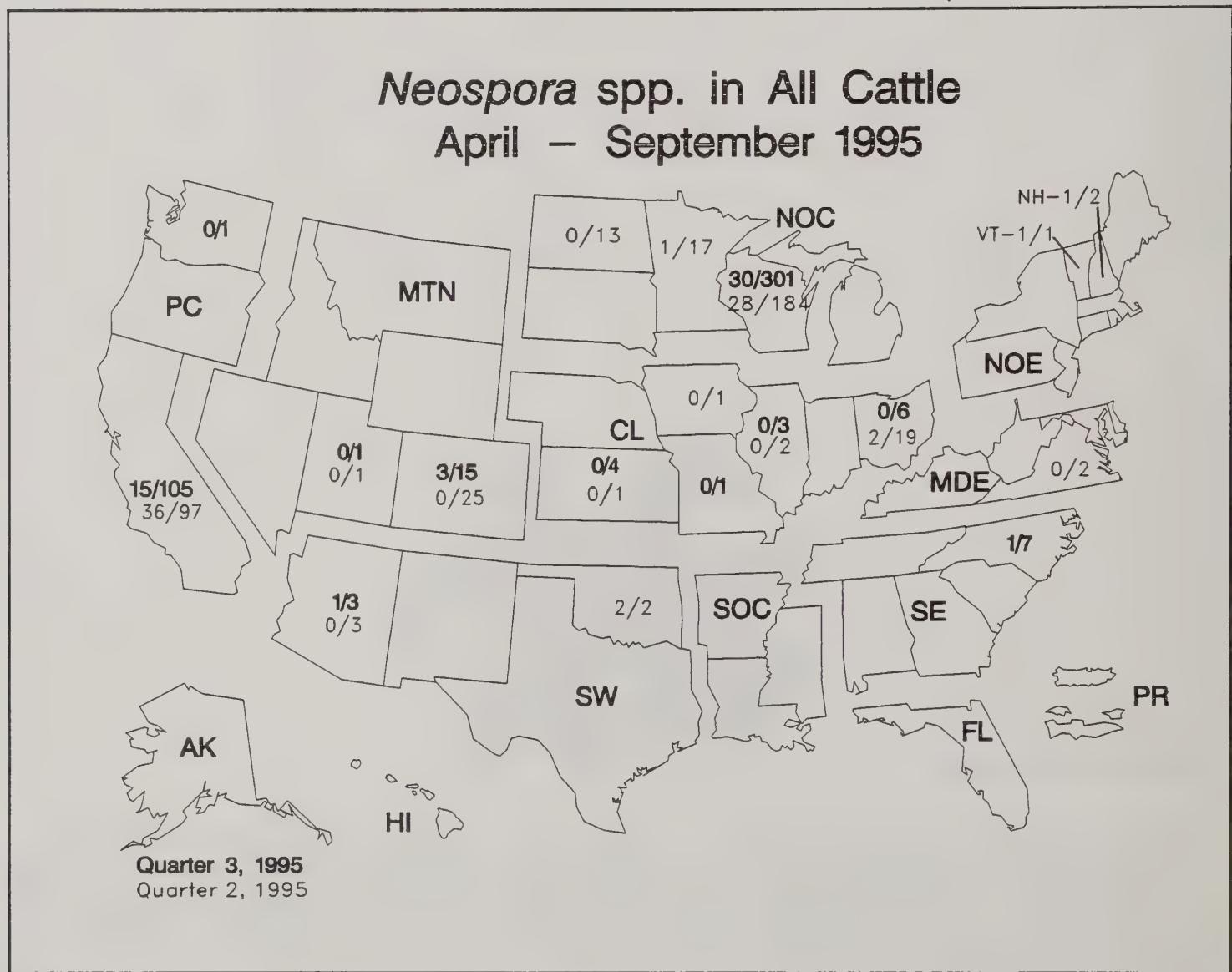


Figure 31

Figure 31 shows the distribution of accession test results reported for *Neospora* spp. for the second and third quarters of 1995, by State. For all cattle, 50 out of 447 (11.2 percent) accessions tested for *Neospora* spp. were positive during the third quarter of 1995.

NOTE: States with no values are nonreporting States.

# Appendix

This section provides tables displaying the most recently reported diagnostic laboratory data.

Bovine Leukosis Virus . . . . .	22
Paratuberculosis by Culture, Histopathology, or DNA Probe . . . . .	23
<i>M. paratuberculosis</i> by Serology . . . . .	24
Equine Viral Arteritis Virus . . . . .	25
Porcine Reproductive and Respiratory Syndrome Virus . . . . .	25
<i>Neospora</i> spp. . . . .	26

## Key to Tables in this Section:

- Data are presented by laboratory of specimen origin and quarter of specimen submission. Because individuals within a State may utilize outside laboratories in addition to their own, the State numbers presented in the State maps may not agree with the numbers presented by reporting laboratory in the appendix.
- Values represent the number of positive tests or accessions (P) and the number of tests performed or accessions tested (T).
- Values reported in the "TOT" category represent all tests performed during the year. This category may include some tests for which a month of specimen submission was not known. Therefore, the sum of the quarterly values may not be equal to the "TOT" values.
- Data totals (positives and total tests) shown for "Total" include specimens of unknown bovine class, in addition to specimens from beef or dairy cattle. Thus, the sums of dairy cattle totals and beef cattle totals do not always equal the totals shown for all cattle.
- Values reported for all diagnoses/agents are for quarters in 1994 and 1995.
- In some cases, the reported total number of tests performed is a minimum because some laboratories were not able to determine the total number of negative tests performed.
- Abbreviations for laboratories used in the tables are:

ARVDL = Arkansas

GAATH = GA, Athens

KYMSU = KY, Hopkinsville

NDVDL = North Dakota

NYVDL = New York

PAVL = TX, Austin

TNVDL = Tennessee

WYVDL = Wyoming

CAVDL = California

GATFT = GA, Tifton

KYVDL = KY, Lexington

NEVDL = Nebraska

OHVDL = Ohio

PRVDL = Puerto Rico

TXVDL - TX, College Sta.

COVDL = Colorado

IAVDL = Iowa

MNDVL = Minnesota

NMVDL = New Mexico

OKVDL = Oklahoma

SCVDL = South Carolina

VAVDL = Virginia

FLVDL = Florida

INVDL = Indiana

MOVDL = Missouri

NVSL = National

ORVDL = Oregon

SDVDL = South Dakota

WIVDL = Wisconsin

Appendix

Bovine Leukosis Virus

Lab	Beef				Dairy				Total							
	---- Quarter ----				---- Quarter ----				---- Quarter ----							
	4/94	1/95	2/95	3/95	TOT	4/94	1/95	2/95	3/95	TOT	4/94	1/95	2/95	3/95	TOT	
CAVDL	P	4	4	1	2	11	89	70	55	213	427	94	84	66	324	568
	T	27	4	1	22	54	339	227	219	950	1735	377	262	268	1554	2461
COVDL	P	2	3	5	3	13	19	39	32	40	130	21	45	42	45	153
	T	40	70	63	66	239	217	170	217	169	773	257	274	292	260	1083
FLVDL	P	6	5	5	3	19	79	65	47	31	222	85	70	52	34	241
	T	47	29	29	50	155	169	108	100	42	419	216	137	129	92	574
GAATH	P											12	79	89	38	218
	T											69	157	196	78	500
GATFT	P											63	53	33	52	201
	T											191	141	113	120	565
INVDL	P	33		0	23	56		15		11	26	33	15	0	34	82
	T	86		20	66	172		68		17	85	86	68	20	83	257
KYMSU	P											86	111	74	90	361
	T											206	225	339	185	955
KYVDL	P	5	4	2	8	19	39	19	9	25	92	51	27	11	37	126
	T	41	9	15	27	92	137	39	19	49	244	189	57	39	98	383
MNVDL	P											65	126	188	70	449
	T											284	325	817	249	1675
MOVDL	P	15	1	12	16	44	16	3	35	18	72	35	4	50	38	127
	T	34	12	30	33	109	30	12	45	33	120	78	27	84	75	264
NDVDL	P											10	58	8		76
	T											84	234	56		374
NMVDL	P											0	3	2	0	5
	T											0	3	2	0	5
NVSL	P											6	4	1	2	13
	T											8	18	4	55	85
NYVDL	P											637	456	344	276	1713
	T											3800	2847	2890	1907	11444
OHVDL	P											532	732	495	494	2253
	T											2716	3605	2411	2366	11098
OKVDL	P	45	24	12	9	90	11	21	13	28	73	56	61	31	40	188
	T	93	73	29	28	223	15	23	22	57	117	108	168	57	97	430
TNVDL	P											100	70	115	285	
	T											255	168	379	802	
TXVDL	P											157	180	182	184	703
	T											1795	633	1315	2628	6371
VAVDL	P	17	64	86	8	175	0	7	5	16	28	17	71	91	24	203
	T	27	172	768	77	1044	3	17	13	62	95	30	189	781	139	1139

## Paratuberculosis by Culture, Histopathology, or DNA Probe

Lab	Bovine				Ovine				Caprine						
	---- Quarter ----				---- Quarter ----				---- Quarter ----						
	3/94	4/94	1/95	2/95	TOT	3/94	4/94	1/95	2/95	TOT	3/94	4/94	1/95	2/95	TOT
CAVDL	P	0			0					0					0
	T	1			1					17					17
COVDL	P	3	0	0	1	4									
	T	164	161	200	55	580									
FLVDL	P	12	7	28	17	64				0					1
	T	86	60	91	41	278				7					62
INVDL	P	1	1	1	3	6									
	T	1	1	1	3	6									
KYVDL	P	0	8		4	12									
	T	20	67		16	103									
MNVDL	P	34	35	24	21	114				1					1
	T	98	118	145	98	459				3					3
MOVDL	P	9	4	2	3	18									
	T	24	28	54	10	116									
NDVDL	P	2	2	3		7									
	T	2	2	3		7									
NVSL	P	4	1	6	6	17				0					0
	T	13	18	45	10	86				1					6
NYVDL	P	304	133	163	108	708	0	1	0	2	2	0	4	4	6
	T	1146	825	1549	889	4409	9	11	15	28	63	4	25	4	56
OHVDL	P	110	157	120	177	564			0		0			3	
	T	1174	899	1257	1643	4973			2		2			5	
VAVDL	P	0			2	2									
	T	1			2	3									
WIVDL	P	131	103	70	80	384	0			0	0	0	4		4
	T	421	371	360	185	1337	1			1	1	2	57		60

Appendix

M. paratuberculosis by Serology

Lab	Bovine				Ovine				Caprine						
	---- Quarter ----				---- Quarter ----				---- Quarter ----						
	4/94	1/95	2/95	3/95	TOT	4/94	1/95	2/95	3/95	TOT	4/94	1/95	2/95	3/95	TOT
CAVDL	P    6	5	3	10	24	1	1	1	5	8	0	0	0	3	
	T    199	194	91	293	777	8	3	3	22	36	92	12	4	21	129
GAATH	P    9	4	4	5	22										
	T    62	29	40	51	182										
GATFT	P    0	0	0	0	0										
	T    23	20	5	15	63										
INVDL	P    28	16	27	11	82									0	0
	T    62	65	57	47	231									1	1
KYMSU	P    28	42	12		82										
	T    224	197	166		587										
KYVDL	P    6		4		10										
	T    113		79		192										
MNVDL	P    147	126	89	123	485										
	T    508	325	216	333	1382										
NDVDL	P    5	15	15		35										
	T    104	314	119		537										
NMVDL	P    0	0	0	0	0										
	T    1	0	2	0	3										
NYVDL	P    130	79	112	127	448	1	10	10	4	25	2	3	3	11	
	T    353	317	349	522	1541	14	110	281	181	586	54	46	33	47	180
OHVDL	P    247	236	176	296	955										
	T    1845	2346	1549	2265	8005										
OKVDL	P    12	4	7	13	36	2	0	0	0	2			0	0	
	T    49	44	42	76	211	8	2	1	8	19			5	5	
PAVL	P    8	4	9		21	1	3	0			4	56	26	62	144
	T    72	97	175		344	32	27	38			97	2928	489	1270	4687
TNVDL	P	15	17	21	53										
	T	140	103	402	645										
VAVDL	P    4	20	7	8	39										
	T    14	65	28	23	130										
WIVDL	P    169	160	184	176	689	0	0	0			0	6	5	4	16
	T    345	320	393	374	1432	1	7	5			13	7	6	7	24

## Equine Viral Arteritis Virus

Lab	Quarter				
	4/94	1/95	2/95	3/95	TOT
CAVDL	P 5 T 372	6 384	2 234	24 384	37 1374
COVDL	P 0 T 19	0 313	0 4	0 36	0 372
FLVDL	P 35 T 1081	15 1921	3 1159	14 1992	67 6153
GAATH	P 16 T 35	2 26	1 22	1 76	20 159
GATFT	P 0 T 6	2 22	0 5	0 21	2 54
KYVDL	P 115 T 2193	21 676	3 637	113 6322	252 9828
NMVDL	P 0 T 3	0 0	0 3	0 0	0 6
NVSL	P 4 T 177	8 181	5 182	3 181	20 721
NYVDL	P 34 T 448	25 470	18 318	40 719	117 1955
VAVDL	P 0 T 15	0 15			0 15

Porcine Reproductive and Respiratory Syndrome Virus  
Indirect Fluorescent Antibody

Lab	Quarter				
	4/94	1/95	2/95	3/95	TOT
CAVDL	P 6 T 32		23 52	1 30	30 114
GAATH	P 21 T 361	38 441	93 333	37 310	189 1445
GATFT	P 44 T 331			49 138	93 469
INVDL	P 107 T 208	66 274	36 216	106 264	315 962
MNVDL	P 6495 T 18395	5186 16492	3621 9989		15302 44876
MOVDL	P 22 T 108	24 118	40 136	30 130	116 492
NMVDL	P 0 T 0	0 0	0 0	0 0	0 0
NVSL	P 295 T 1131	78 242	74 371	19 135	466 1879
OHVDL	P 143 T 659	61 509	392 1123	242 1089	838 3380
OKVDL	P 12 T 47	630 876	35 136	27 85	704 1144
WIVDL	P 0 T 51	15 71	0 15		15 137

Porcine Reproductive and Respiratory Syndrome Virus  
Virus Isolation

Lab	Quarter				
	4/94	1/95	2/95	3/95	TOT
INVDL	P 34 T 169	69 234	70 247	53 151	226 801
MNVDL	P 54 T 456	15 606			69 1062
NMVDL	P 0 T 0	0 0	0 0	0 0	0 0

## Appendix

## Neospora spp.

Lab	Beef				Dairy				Total							
	---- Quarter ----				---- Quarter ----				---- Quarter ----							
	4/94	1/95	2/95	3/95	TOT	4/94	1/95	2/95	3/95	TOT	4/94	1/95	2/95	3/95	TOT	
CAVDL	P	6	1	1	2	10	31	5	36	17	89	38	6	39	21	104
	T	37	29	13	40	119	87	29	85	67	268	129	59	105	113	406
COVDL	P	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1
	T	6	30	5	1	42	11	8	16	13	48	24	52	28	15	119
MNVDL	P	0				0	1			1	1				1	
	T	2				2	25			25	29				29	
NDVDL	P										0	2	1		3	
	T										16	214	30		260	
OHVDL	P										0	0	1	0	1	
	T										27	17	16	6	66	
VAVDL	P		0		0						0		0		0	
	T		2		2						2		2		2	
WIVDL	P										15	19	30	28	92	
	T										128	204	189	313	834	

## Free Data Submission Software Available

The DxMONITOR Data Submission System (DDSS) is available free of charge to any laboratory interested in participating in the Veterinary Diagnostic Laboratory Reporting System (VDLRS).

To use the DDSS, data must first be captured by a laboratory in whatever manner works best for that particular laboratory. The summary totals of those data are then entered into a data entry screen which is provided as part of the DDSS. A computer file is automatically created for use in transferring the data. A reference guide leads the user through this process. Because the system was written within a software package called "EpiInfo," a copy of this program and a user's guide are also included. EpiInfo was developed by the Centers for Disease Control and Prevention and the World Health Organization. It has many capabilities including data analysis, word processing, statistics, etc. Please contact the address on the inside front cover of this issue for more information about the DDSS.

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Readers of the DxMONITOR Animal Health Report are encouraged to submit items suitable for the "LabNEWS." All articles should be typed double spaced. Photos/artwork should be camera ready copy. If possible, please provide your article on diskette and indicate what type of software was used to create/store the file (i.e., WordPerfect, Word Star). Send submissions to the address on the inside front cover of this report.

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